

Joint Statement on Multinational Cooperation on High-Density Low-Enriched Uranium Fuel Development

Belgium, France, Germany, the Republic of Korea and the United States, the parties to this joint statement recognize that the ultimate goal of nuclear security is advanced by minimizing highly-enriched uranium (HEU) in civilian use, which is affirmed in the Washington and Seoul Summit Communiqués and is also a key issue on the agenda of the 2014 Nuclear Security Summit.

In continuation of the Joint Statement on Quadrilateral Cooperation on High-density Low-enriched Uranium Fuel Production made in Seoul, the original four parties plus Germany are working together to develop and qualify new high-density low-enriched uranium LEU fuels as part of an effort to convert research reactors from HEU fuel to LEU fuel.

High performance research reactors use significant quantities of HEU each year and require unique and complex fuels to operate. The five parties are pooling their expertise and resources to develop, qualify and fabricate new high-density LEU fuels with the ultimate goal of converting the remaining high performance research reactors in the world to operate on these fuels when technically and economically feasible.

The parties are focusing their efforts on uranium molybdenum (UMo), both as a monolithic fuel foil and as UMo powder dispersed in an aluminium matrix. In the last years the parties have had particular yet not exclusive technical foci. Europe (Belgium, France and Germany) manufactured and tested in-pile full-scale fuel plates based on coated UMo powder technology; the United States manufactured and tested in-pile full-scale fuel plates based on coated monolithic UMo technology. As laid out in the 2012 Joint Statement, the Republic of Korea manufactured and made available to the community UMo powders based on advanced atomization technology, and intends to continue producing and providing such UMo powders for further qualification tests of new high-density dispersion fuel.

We express our shared confidence that this international cooperation among Belgium, France, Germany, the Republic of Korea and the United States to develop high density LEU fuels will be strengthened by intensified and coordinated collaboration that will contribute directly to the ultimate goal of minimizing HEU in civilian use. Cooperation and support from the international community are crucial for making available LEU fuel that is suitable for high performance research reactors, and we agree to share the benefits of all technology developed together in this joint effort, with conditions to be set out in due time.

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